

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed **10/31/2007**. Consideration and allowance of the application and presently pending claims as amended, is respectfully requested.

1. Present Status of Patent Application

Upon entry of the amendments in this response, the following amended, original and new claims will be pending:

Original claims: 9, 12 – 19 and 21

Amended claims: 1, 3, 5-8, 10, 12 and 20

Cancelled claims: 2, 4, 21-34

New claims: 35 - 50

Amendments to the claims herein are specifically described hereinafter. It is believed that the foregoing amendments add no new matter to the present application and place the claims in condition for allowance.

2. Objections to Claim 3

Claim 3 as been objected to because of certain specified informalities, More particularly, claim 3 has been objected to because on line 3, "an object" should be changed to "the object".

Claim 3 has now been amended herein to address the present objections. It is believed that claim 3 now meets all requirements of the patent office and is otherwise allowable. Consideration and allowance of claim 3 is requested.

3. Rejection of claims 1-2 and 12 under 35 U.S.C. §102(b)

Claims 1-2 and 12 have been rejected under U.S.C. §102(b) as being anticipated by Pietrzak et al (USP 6205240). The office action states that "Pietrzak discloses a measurement system 150 (fig. 1) comprising a sensor unit 65 (fig.1) configured to capture the profile of an object 40(fig. 1) within a predetermined work zone 60 (fig. 1)

and output data representative of said object (abstract); and a control unit 95 (fig. 1) for receiving and processing data received from said sensor chassis 150 (fig. 1).”

The present invention is directed to a non-contact profile measurement device capable of capturing a 360° profile of an object. The present invention is further configured so that it may capture a 360° profile of an object in a work zone without making contact with the object in the work zone.

Pietrzak et al is directed to an optical profile sensor that projects a sheet of light at the surface of an object, thereby illuminating a profile, which is collectively viewed by at least two optical detectors, where each detector produces a signal representative of its view (column 2, lines 51 – 56). The device of Pietrzak is configured to make contact with an edge 35 having two sides 36 and 37 and image the edge 35 via a video camera 70 which in turn outputs a signal representing the particular view of the edge 35 seen by the video camera 70 (see column 5, lines 5 – 10).

In order for a claim to be anticipated by a prior art reference, each and every limitation specified by the claim under examination must be found in the prior art reference. In the case of dependent claims, this requires that not only must each and every limitation of the dependent claim be found in the prior art, but so must each and every limitation set out in the independent claim from which the dependent claim depends. It is submitted that the prior art of record fails to disclose each and every limitation specified by the claims at issue herein. For at least this reason, it is submitted that claims 1-2 and 12 are not anticipated by the prior art of record.

Claim 1 is an independent claim from which both claims 2 and 12 depend. With respect to independent claim 1, Applicant respectfully submits that the Pietrzak reference fails to disclose or otherwise suggest each and every limitation specified by independent claim 1 as originally submitted. That said, in order to further distinguish the unique attributes of the present invention, independent claim 1 has been amended herein to specify and require a measurement system that is configured to capture a substantially 360° profile of an object. The measurement system includes, among other things, a sensor chassis that is configured to capture a substantially 360° profile of an object within a predetermined work zone without making contact with an object in the work zone. Further, claim 1 as now amended also specifies and requires, among other

things, a sensor chassis that is configured to allow a plurality of contour sensors to be collectively rotated about a work zone. Pietrzak does not disclose, suggest or otherwise contemplate a measurement system directed to capturing a full 360° profile of an object, or the need for such a system. Further, Pietrzak does not disclose, suggest or contemplate a system capable of capturing a full 360° profile of an object without making contact with an object in a work zone, nor does Pietrzak contemplate the need for such a system.

In view of the amendments made herein, the distinctions between the prior art and the present invention have been further distinguished. Considering each and every limitation specified by independent claim 1 as amended herein, it is clear that Pietrzak fails to disclose, suggest or otherwise contemplate a measuring system having all of the attributes specified and required by claim 1. In view of this, it is submitted that it is also clear that claim 1 is not anticipated by the prior art of record. Reconsideration and allowance of claim 1 as amended herein is requested.

With respect to claim 2, the office action has further stated that “Pietrzak discloses the claimed sensor chassis 150 (fig. 1) comprises[sic] at least two contour sensors 65, 70 (fig.1), each aligned with said work zone 60 (fig 1) so that an object within said work zone is at least partially within the field of view (FOV) of one or more of said contour sensors (abstract, each have different field of view).”

Claim 2 has now been cancelled from the present application. The limitations specified by claim 2 have now been incorporated into independent claim 1 via amendments made herein.

With respect to claim 12, the office action states that “Pietrzak discloses the claimed display 100 (fig. 1).” Applicant notes the amendments made herein and discussed above with respect to independent claim 1. An analysis of claim 12 under 35 U.S.C. §102(b) must consider not only the limitations specified by claim 12, but also the limitations specified by claim 1. Given the limitations of claim 1 as amended herein, and as discussed above, it is submitted that Pietrzak fails to disclose, suggest or otherwise contemplate a measurement system having each and every limitation specified and required by dependent claim 12. Reconsideration and allowance of claim 12, in view of the comments and amendments made herein, is requested.

4. Rejection of claims 4, 8 – 11, 13 - 17 under 35 U.S.C. §103(a)

Claims 4, 8 – 11, 13 - 17 have been rejected as being unpatentable over Pietrzak et al (USP 6205240). It is respectfully submitted that the Office Action herein does not establish a case of prima facie obviousness with regard to claims 4, 8 – 11, 13 - 17.

The mere fact that the prior art can, at least arguably, be modified so as to result in a combination supposedly defined by the claims at issue does not make the modification obvious unless the prior art teaches or suggests the desirability of such modification. In the case of claims 4, 8 – 11, 13 – 17 as originally submitted, no such suggestion or teaching is provided by the cited prior art. Pietrzak simply fails to teach or otherwise suggest modifications that would yield the claimed invention. Further, Pietrzak fails to even contemplate the need or benefit of such a system. For at least these reasons, applicants submit that the office action has failed to establish a case of prima facie obviousness with regard to claims 4, 8 – 11, 13 – 17 as originally submitted.

Pietrzak has been reviewed. As noted above in conjunction with the rejection of claims under 35 U.S.C. §102(b), Pietrzak et al is directed to an optical profile sensor that projects a sheet of light at the surface of an object, thereby illuminating a profile, which is collectively viewed by at least two optical detectors, where each detector produces a signal representative of its view (column 2, lines 51 – 56). The device of Pietrzak is configured to make contact with an edge 35 having two sides 36 and 37 and image the edge 35 via a video camera 70 which in turn outputs a signal representing the particular view of the edge 35 seen by the video camera 70 (see column 5, lines 5 – 10). Pietrzak does not disclose, suggest or otherwise contemplate a measurement system directed to capturing a full 360° profile of an object, or the need for such a system. Further, Pietrzak does not disclose, suggest or contemplate a system capable of capturing a full 360° profile of an object without making contact with an object in a work zone, nor does Pietrzak contemplate the need for such a system. Further, Pietrzak fails to disclose or suggest a measurement system that meets each and every limitation specified by claims 4, 8 – 11, 13 – 17 as originally submitted, including the limitations specified and required by the claims from which they depend.

Claims 8, 10 and 12 have been amended herein as noted above. Further, claim 1, from which each of the claims 4, 8 – 11, 13 – 17 depend, has also been amended herein. These amendments have been discussed above in connection with the rejection of claims under 35 U.S.C. §102(b). These amendments further distinguish the claimed invention over the cited prior art. Consideration and allowance of claims 4, 8 – 11 and 13 – 17 in view of the amendments herein is respectfully requested.

5. Rejection of claims 3, 5-7 and 18-19 under 35 U.S.C. §103(a)

Claims 3, 5-7 and 18-19 have been rejected as being unpatentable over Pietrzak et al (USP 6205240) in view of Fujita et al (USP 6,909,513). It is respectfully submitted that the Office Action herein does not establish a case of prima facie obviousness with regard to claims 3, 5-7 and 18-19.

Neither Pietrzak nor Fujita teach, suggest or otherwise contemplate the modifications and combination that arguably would yield the claimed invention. Neither of these references disclose, suggest or otherwise contemplate a measurement system directed to capturing a full 360° profile of an object, or the need for such a system. Nor do they disclose, suggest or contemplate a system capable of capturing a full 360° profile of an object without making contact with an object in a work zone, further neither Pietrzak nor Fujita contemplate the need for such a system. Additionally, Pietrzak and Fujita fail to disclose or suggest a measurement system that meets each and every limitation specified by claims 3, 5-7 and 18-19 as originally submitted, including the limitations specified and required by the claims from which they depend. For at least these reasons, applicants submit that the office action has failed to establish a case of prima facie obviousness with regard to claims 3, 5-7 and 18-19 as originally submitted.

As noted above, amendments have now been made to the claims herein, including independent claim 1 from which each of these claims depend. Claims 3, 5-7 and 18-19 are now believed to be in condition for allowance. Consideration and allowance of claims 3, 5-7 and 18-19 is requested.

6. Rejection of claims 20 and 21 under 35 U.S.C. §103(a)

Claims 20 and 21 have been rejected as being unpatentable over Pietrzak et al (USP 6205240) in view of Fujita et al (USP 6,909,513). It is respectfully submitted that the Office Action herein does not establish a case of prima facie obviousness with regard to claims 20 and 21.

Applicant reasserts, without repeating here, all comments and arguments made above in connection with the rejection of claims 3, 5-7 and 18-19 under 35 U.S.C. §103(a). In view of the above comments and arguments, and noted amendments to the claims herein, reconsideration of claims 20 and 21 is requested.

7. Amended Claims

Claim 1 has been amended to specify, among other things, a sensor chassis that is configured to capture a substantially 360° profile of an object within a predetermined work zone without making contact with an object in the work zone.

Claim 3 has been amended to change claim dependency in view of the cancellation of claim 2; and to overcome objections raised by the office action.

Claim 5 has been amended to change claim dependency.

Claim 6 and 7 have been amended to specify contour sensors that are substantially radially aligned with the center of a work zone.

Claim 8 has been amended to specify a contour sensor that includes a illumination unit configured to generate and output a light beam of a predetermined wavelength.

Claim 10 has been amended to specify a contour sensor that comprises a flying spot of light contour sensor.

Claim 20 has been amended to specify a method of evaluating a substantially 360 profile of a work piece.

8. New Claims

New claims 35 – 50 have been added herein. Each of these claims ultimately depend from claim 1 which as been amended herein as noted above. No new matter is introduced by these claims. Consideration and allowance of these claims is requested.

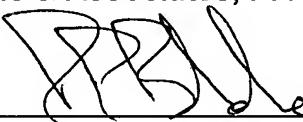
CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims **1, 3, 5, 6-10, 12 – 21 and 35 - 50**, as amended herein, are in condition for allowance.

Otherwise favorable re-consideration and allowance of the present application and all pending claims would seem appropriate and is thus courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (678) 352-0103.

Respectfully submitted,

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By: _____

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